```
    MODULE Main EXPORTS Main ;

    IMPORT IO ;

5   PROCEDURE BinarySearch(READONLY a: ARRAY OF INTEGER ; v : INTEGER) : BOOLEAN =

    PROCEDURE BinSearch(i, j : INTEGER) : BOOLEAN =
    VAR m : INTEGER ;
    BEGIN
10      IF i <= j THEN
            m := (i + j) DIV 2 ;
            IF v = a[m] THEN
                RETURN TRUE ;
            ELSIF v < a[m] THEN
15              RETURN BinSearch(i, m-1) ;
            ELSE (* v > a[m] *)
                RETURN BinSearch(m+1, j) ;
            END ;
        ELSE
20          RETURN FALSE ;
        END ;
    END BinSearch ;

    BEGIN
25      RETURN BinSearch(FIRST(a), LAST(a)) ;
    END BinarySearch ;

30  CONST data = ARRAY OF INTEGER {
        -798, -611, -495, -299, -222, -125, -105, -100, -89, -34, -30, -8,
        -5, -3, 2, 10, 13, 18, 20, 100, 105, 121, 200, 300, 450, 500, 501} ;

    BEGIN
35      FOR v := -1000 TO 1000 DO
            IF BinarySearch(data, v) THEN
                IO.PutInt(v) ;
                IO.Put("\n") ;
            END ;
40      END ;
    END Main .
```

```
    -798
    -611
    -495
    -299
    -222
    -125
5   -105
    -100
    -89
    -34
    -30
10  -8
    -5
    -3
    2
    10
15  13
    18
    20
    100
    105
20  121
    200
    300
    450
    500
25  501
```